

ABSTRACT OF THE DISCLOSURE

The disclosure provides a capacitor including a lower electrode, a surface of which can be formed of Pt, and an inner part of which can be formed of metal having good antioxidant properties. The inner part of the lower electrode can be formed by depositing Ru or Ir with an electro plating process. It is possible to improve the leakage current characteristics by forming the surface of the lower electrode with Pt. Also it is possible to perform a thermal treatment at a high temperature in an oxygen atmosphere, because the inner part of the lower electrode resists or prevents diffusion of oxygen, so that a high dielectric layer can be obtained.